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10. (Twice Amended) A method of suppressing corrosion of a reactor structural member, comprising:

controlling a corrosion potential of the reactor structural member by providing a corrosion potential reducing substance on a surface of the reactor structural member, the corrosion potential reducing substance being formed as particles made of TiO_2 , each particle having a surface on which at least one of Pt, Rh, Ru and Pd is provided.

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12. (Amended) The method according to claim 10, further comprising controlling an iron concentration of a feedwater in the nuclear reactor.

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15. (Amended) The method according to claim 10, further comprising adding a solution or a suspension of a composition containing a photocatalytic substance to a reactor water so as to make the photocatalytic substance adhere to the surface of the reactor structural member or to form a film of the photocatalytic substance on the surface of the reactor structural member.

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17. (Amended) The method according to claim 10, wherein the corrosion potential reducing substance is formed on the surface of the reactor structural member as a film having a thickness in a range of 0.1 to 1 μm .

18. (Amended) The method according to claim 10, wherein the reactor structural member is made of an iron-base or nickel-base alloy, and the corrosion potential reducing substance is formed on a corrosion oxide film formed on the surface of the reactor structural member.

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25. (Amended) The method according to claim 10, further comprising injecting hydrogen or methanol through a feedwater system of the nuclear reactor into a reactor water.